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DECEMBER 1.

The President, Dr. LEIDY, in the chair.

Thirty-eight persons present.

On a white-seeded variety of the Honey Locust.—Mr. THOMAS MEEHAN exhibited seeds of a tree of the Honey Locust, *Gleditschia triacanthos*, growing near Germantown, which were white instead of dark olive-brown as in the normal condition. The tree was of considerable age, and had evidently been bearing fruit for many years. He had had, he said, many opportunities of examining Honey Locust seeds, but had never seen or heard of a white seeded one before. The seeds instead of being narrowly ovate twice the length of the breadth as usual, were nearly orbicular, illustrating a point not new but worth emphasizing, that when a plant varied from its parent in any one respect, it was liable to have variations in others. A whole system of variations followed a single departure. But the best use of this departure was to illustrate a point not yet perceived in its full force, as he believed, that variation is not nearly as much dependent on environment as many eminent men believe. When variations occur it is difficult for some to believe that cross-fertilization, a return to some characteristic of an ancient parent, or some accident of climate or soil had not an agency in the change. In cases such as this, where there was no other shade of color to cross with, no known progenitor with any variation in the color of the seeds, no accident of climate or soil to influence this one tree more than others growing near, it was difficult to understand how anything as yet suggested could be a factor in the change. We have to use yet the indefinite and meaningless expression that the change was caused by the plant's own innate power to change, an expression, which, obscure as it might be, is yet of service by excluding much from the examination that might add to the complexity of the investigation.

Another interesting suggestion from these seeds was the hereditary power which a new variation possessed. There had been no time to ascertain whether these seeds would again reproduce trees with white seeds; but by analogy drawn from similar departures in other plants, there is no doubt the reproduction of the variety would be as continuous as in the best recognized species.

It could hardly be supposed that since the first appearance of the Honey Locust on the earth, this was the first time the tree had ever produced white seeds, though he had never seen one or knew of any recorded instance. In view of the hereditary character of these variations, it might be asked why has not some early white departure perpetuated and propagated itself so that such trees should be quite common in this era? The different abilities of various classes of plants to propagate themselves were pointed out. Of small seeds produced by such a plant as chickweed, hundreds get the chance to grow. Perennial plants, such as Aster, Golden Rods, also, in a general way, had great facilities for seed germination, hence any departure from a parental form had a good chance to perpetuate itself, the only great enemy being the struggle of the young living plants to get a portion of the nutrition necessary for life. Hence we had many variations among such genera very puzzling to naturalists, running the species together so that it was only with great difficulty the species of some genera could be classified. Among trees with larger seeds it was difficult to perpetuate the race, and it was providential in many cases that longevity was great, or the race would soon have become extinct. Of the hundreds of thousands of Acorns, Chestnuts, Beechnuts, and other similar seed produced in a forest in any one season, only a few score would get a chance to grow up to produce seeds again. Birds, quadrupeds, and insects ate the seeds by thousands, large numbers could not sprout for want of a proper covering of earth. Of those which sprouted, numerous were they that failed to get beyond the first year; and of these, shade, or the innumerable struggles they were subjected to, permitted them not to reach mature age. He had known Honey Locust trees, single specimens, bearing fruit annually for over a quarter of a century in some instances, and yet to be but solitary specimens of their kind in their immediate location. As a rule, the chance of a new departure perpetuating itself was small, but sometimes circumstances seemed to favor the production of seedlings. Once in a while, under the trees in a Pine, Oak, Maple, or other forest, or under large trees, numerous seedlings might be noticed. It was only when a new departure found itself under these exceptional cases, that enough trees would be produced to extend and perpetuate the race, and then it was that we had to recognize the distinct variety, or even species, as we often had to call the departure by reason of its great distinctness from its parental form.

Mr. Meehan referred to some recent discussions on variation in Indian Corn. Cross-fertilization often made great changes in the immediate coloring of the seeds. There were some who argued that change comes also from innate power to vary. Such instances as this of the Honey Locust confirmed this view.